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Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

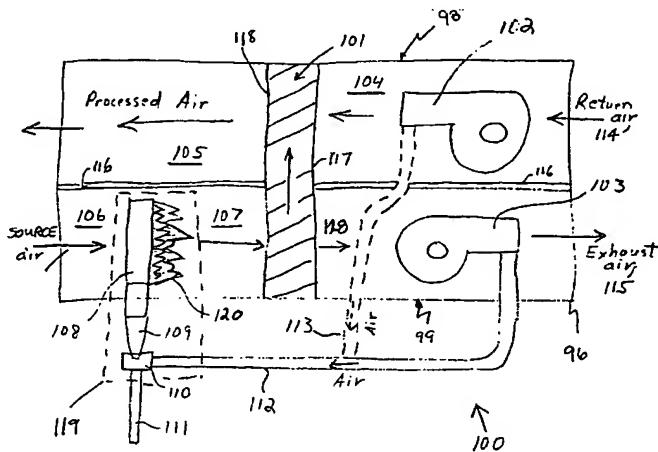
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(54) Title: DESICCANT DEHUMIDIFICATION SYSTEM



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(57) Abstract: A desiccant dehumidification system (DDS) uses an air heater that incorporates air feedback from the exhaust (115) and/or the return air fans (206). The air and gas are mixed in a mixing valve (110). The mixing valve (110) may be a single step, a two step or a continuous modulation valve. An outdoor cooking grill style burner (12) allows a small unit to be made with tight air heating system. One system cools the return air making it cool and humid. A portion of this air is then dried by a DDS which makes output air that is hot and dry. The remaining return air is then dried by DDS output air to deliver processed air in a controlled comfort range. A second system mixes return air with fresh air to make mixed return air which is dried in a DDS. The dried return air is then cooled to a desired comfort range without condensation.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/03729

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : F25D 17/06; F25D 23/00.

US CL : 62/90, 271, 173.

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 62/90, 271, 173.Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONEElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
NONE**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,826,434 A (BELDING et al.) 27 October 1998 (27.10.1998), see entire document.	1-33
Y	US 6,199,388 B1 (FISCHER , JR.) 13 March 2001 (13.03.2001), see entire document.	1-51
A	US 6,003,327 A (BELDING et al.) 21 December 1999 (21.12.1999), see entire docuemnt.	1-14
A	US 5,667,560 A (DUNNE) 16 September 1997 (16.09.1997), see entire document.	1-23
A	US 5,649,428 A (CALTON et al.) 22 July 1997 (22.07.1997), see entire document.	1-10
A	US 5,632,954 A (COELLNER et al.) 27 May 1997 (27.05.1997), see entire document.	1-18

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&" document member of the same patent family

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